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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,287

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EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,287	Applicant(s) MIYASAKA ET AL.	
	Examiner Steven D. Maki	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 10-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>080806,121008</u> . | 6) <input type="checkbox"/> Other: ____. |

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1) Figure 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2) The disclosure is objected to because of the following informalities: The specification refers to the claims. It is suggested to appropriately delete the references to the claims.

Appropriate correction is required.

3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4) **Claims 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Himuro 384 (US 5,885,384) in view of Ratliff (US 2004/0069389) and Himuro 892 (US 2002/0062892).**

Himuro 384 discloses a pneumatic tire having improved wet performance with a directional tread comprising a center land portion (center rib) and steep slant grooves wherein each of the steep slant grooves terminates in the center land portion (center

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rib). See Figure 3. Himuro 384 does not recite forming recessed portions in the center rib.

As to claim 10, it would have been obvious to one of ordinary skill in the art to provide RECESSED PORTIONS in the center land portion (center rib) of the directional tire tread of Himuro 384 such that, for each recessed portion, (1) the recessed portion is formed along the inner edge of the steep slant groove and (2) the recessed portion has a **depth gradually increasing** and a **width gradually decreasing** from longitudinal middle portion of the steep slant groove toward end portion of the steep slant groove near the tire equatorial plane (the recessed portion thereby having a *"tip" which is both relatively narrow and relatively deep*) since:

(1) Ratliff, also directed to a directional tire tread, suggests forming CHAMFERS 44 IN THE FORM OF RECESSED PORTIONS in and along the side of a tread element (block or rib) such that the recessed portion has a **depth gradually increasing** and a **width gradually decreasing** from a longitudinal middle portion toward end portion thereof (the recessed portion thereby having a *"tip" which is both relatively narrow and relatively deep*) for the expected and predicted benefit of improved snow and mud traction and better wet traction (Figure 3a, paragraphs 1, 29, 30 and especially 32) and

(2) Himuro 892, also directed to a directional tire tread, suggests forming CHAMFERS (PSEUDO LAND PARTS 14) near a center rib 22 and along the inner side of a steep slant groove such that the chamfer has a **depth gradually increasing** and a **width gradually decreasing** from a longitudinal middle portion of the steep slant groove and toward end portion of the steep slant groove (the chamfer thereby having a

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"tip" which is both relatively narrow and relatively deep) for the expected and predicted benefit of improving drainage performance (Figures 1, 2A-2C, paragraphs 2, 10, 12, 31 and 32).

As to claim 11, it would have been obvious one of ordinary skill in the art to form the angle of the boundary line of the RECESSED PORTION when viewed in a plan view of the tread such that it is not more than 15 degrees with respect to the circumferential direction since (1) Ratliff suggests forming the inner boundary of the chamfer (RECESSED PORTION) such it extends substantially in the circumferential direction as shown in Figures 1 and 4d and (2) Himuro 892 suggests forming the inner boundary of the chamfer (psuedo land portion) such that it extends in the circumferential direction as shown in Figure 1. With respect to angle θ_b of the land side land portion being not more than 30 degrees with respect to the radial direction, note the orientation of the wall surface between upper surface of chamfer 44 and tread block surface 52 shown in Figure 3a of Ratliff.

As to claims 12 and 13, it would have been obvious to one of ordinary skill in the art to locate the boundary lines such that they are aligned in a straight line (claim 12) or spaced apart (claim 13) depending on the desired size of the RECESSED PORTIONS in view of the suggestion from Ratliff and Himuro (when considered as a whole) to form chamfers on both sides of a center rib to improve snow and mud traction and improve wet traction by improving drainage. As to claim 12, it is noted that the inner ends of the steep slant grooves in Himuro 384 are very close the equatorial plane of the tire. As to

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claim 13, the inner boundary lines of the chamfers (pseudo land parts) of Himuro 892 are spaced apart from each other.

As to claim 14, it would have been obvious to provide the RECESSED PORTION with a length of 25-50% of the pitch length of the steep groove since Ratliff teaches forming relatively narrow and limited length CHAMFERS 44 IN THE FORM OF RECESSED PORTIONS (Figure 1, paragraph 28).

As to claim 15, Ratliff teaches using a depth of 50-100% for the CHAMFERS 44 IN THE FORM OF RECESSED PORTIONS (paragraph 21).

As to claim 16, there is a phase difference between the steep slant grooves on one side of the EP and the steep slant grooves on the other side of the EP in Himuro 384's Figure 3 tread.

As to claim 17, Himuro 384 teaches inclining the steep slant grooves at a angle of 5-30 degrees with respect to the circumferential direction.

As to claim 18, Himuro 384's Figure 3 tread has shoulder transverse grooves.

As to claim 19 note circumferentially extending grooves 14 in Himuro 384's Figure 3 tread. In any event: it would have been obvious to provide Himuro 384's Figure 3 tread with a pair of circumferential grooves as claimed since (1) Himuro 384 discloses separating shoulder blocks from a central region of a directional tread using circumferentially extending grooves and (2) Himuro 892 teaches separating shoulder blocks from a central region of a directional tread using circumferential grooves 21a, 21b.

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As to claim 20, it would have been obvious to one of ordinary skill in the art to form the RECESSED PORTIONS such that they do not overlap with each other in the tire axial direction since (1) Ratliff teaches forming relatively narrow and limited length CHAMFERS 44 IN THE FORM OF RECESSED PORTIONS (Figure 1, paragraph 28) and (2) there is a phase difference between the steep slant grooves on one side of the EP and the steep slant grooves on the other side of the EP in Himuro 384's Figure 3 tread.

Remarks

5) The remaining references are of interest.

6) No claim is allowed.

7) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
June 21, 2009